in the embodiments of the present disclosure, after a zero wire is lost, a 0-axis reference current is set to an alternating current whose frequency is a harmonic frequency of mains, and a 0-axis modulated wave is then generated according to a difference between the 0-axis reference current and a 0-axis sampling current. Because the 0-axis reference current and the 0-axis sampling current are both alternating, the 0-axis modulated wave generated according to the difference between the 0-axis reference current and the 0-axis sampling current is also alternating. Therefore, a current that flows through a transverse bridge in an alternating-current positive half cycle and a current that flows through the transverse bridge in an alternating-current negative half cycle are equal, and positive and negative buses in the three-phase UPS are balanced, thereby resolving a problem that positive and negative buses are unbalanced.

[0035] Specific implementation manners of the three-phase UPS control method and apparatus, and the three-phase UPS provided in the embodiments of the present disclosure are described below with reference to the accompanying drawings of this specification.

[0036] The three-phase UPS control method provided in the embodiments of the present disclosure is applied to a UPS system shown in FIG. **2**, where a rectifier **21**, an inverter **22**, a bus capacitor C**1**, a bus capacitor C**2**, and a rectifier inductor L form a UPS. A rectifier control unit **24** generates a modulated wave according to a current signal of the rectifier inductor L, an input voltage (that is, a received voltage of an alternating current power network), and voltages of positive and negative buses, and then generates a control signal according to the generated modulated wave, to control the rectifier **21** to work. A load **23** is further included in FIG. **2**. Actually, the three-phase UPS includes three rectifier inductors and three rectifiers, and a three-phase alternating current is input to different rectifiers by means of different rectifier inductors.

[0037] As shown in FIG. **3**, a three-phase UPS control method provided in an embodiment of the present disclosure includes:

[0038] S**301**. Determine that a zero wire of a three-phase uninterruptible power supply is lost.

[0039] S**302**. Use an alternating current whose frequency is a harmonic frequency of mains as a 0-axis reference current.

[0040] S**303**. Generate a 0-axis modulated wave according to a difference between the 0-axis reference current and a 0-axis sampling current, to control a rectifier in the three-phase uninterruptible power supply to convert a received alternating current to a direct current.

[0041] At a same moment, the 0-axis sampling current i_0 is one third of a sum of an A-phase current i_a (that is, a current on a rectifier inductor connected to a rectifier that rectifies an A-phase alternating current in the three-phase UPS), a B-phase current i_b (that is, a current on a rectifier inductor connected to a rectifier that rectifies a B-phase alternating current in the three-phase UPS), and a C-phase current i_c (that is, a current on a rectifier inductor connected to a rectifier that rectifies a C-phase alternating current in the three-phase UPS) in a three-phase alternating current received by the three-phase UPS, that is, $i_0=(i_a+i_b+i_c)/3$.

[0042] Zero wire loss refers to that a zero wire between an alternating current power network and a p point in FIG. **2** is disconnected. A mains frequency is f (=50 hertz (Hz)). Therefore, a frequency of the 0-axis reference current is n*f, where N is a natural number.

[0043] The 0-axis may be a 0 axis in a rotating coordinate system $\alpha\beta0$, or may be a 0 axis in a rotating coordinate system dq0. If the 0 axis is a 0 axis in the rotating coordinate system $\alpha\beta0$, after the 0-axis modulated wave is generated, coordinate conversion is then performed on an α-axis modulated wave, a β-axis modulated wave, and the generated 0-axis modulated wave, to generate an A-phase modulated wave, a B-phase modulated wave, and a C-phase modulated wave. If the 0 axis is a 0 axis in the rotating coordinate system dq0, after the 0-axis modulated wave is generated, coordinate conversion is then performed on a d-axis modulated wave, a q-axis modulated wave, and the generated 0-axis modulated wave, to generate an A-phase modulated wave, a B-phase modulated wave, and a C-phase modulated wave. A voltage of the 0-axis modulated wave is $U_0=(U_{sA}+U_{sB}+U_{sC})/3$, where U_{sA} is a voltage of the A-phase modulated wave, U_{sB} is a voltage of the B-phase modulated wave, and U_{sC} is a voltage of the C-phase modulated wave.

[0044] The A-phase modulated wave controls a rectifier, which receives an A-phase alternating current in the three-phase UPS, to convert the received alternating current to a direct current, the B-phase modulated wave controls a rectifier, which receives a B-phase alternating current in the three-phase UPS, to convert the received alternating current to a direct current, and the C-phase modulated wave controls a rectifier, which receives a C-phase alternating current in the three-phase UPS, to convert the received alternating current to a direct current.

[0045] When the three-phase UPS control method provided in this embodiment of the present disclosure is used, a rectifier in the three-phase UPS may use a two-level topology, may use a three-level topology, or may use another topology.

[0046] Optionally, as shown in FIG. **4**, the generating a 0-axis modulated wave according to a difference between the 0-axis reference current and a 0-axis sampling current includes:

[0047] S**401**. Perform proportional adjustment on the difference between the 0-axis reference current and the 0-axis sampling current, so that a 0-axis current forms a closed loop, and when the zero wire of the three-phase uninterruptible power supply is normal, a location of a wave peak of each of an A-phase modulated wave, a B-phase modulated wave, and a C-phase modulated wave is the same as a location of a wave trough of the 0-axis reference current, and a location of a wave trough of the modulated wave is the same as a location of a wave peak of the 0-axis reference current, where a frequency of the 0-axis reference current is a $3N^{th}$-order harmonic frequency of the mains, and N is a natural number.

[0048] S**402**. Perform amplitude limiting on a difference between a 0-axis sampling voltage and a signal that is output after the proportional adjustment, to obtain the 0-axis modulated wave.

[0049] At a same moment, the voltage U_0 of the 0-axis modulated wave is equal to one third of a sum of the voltage U_{sA} of the A-phase modulated wave, the voltage U_{sB} of the B-phase modulated wave, and the voltage U_{sC} of the C-phase modulated wave, that is, $U_0=(U_{sA}+U_{sB}+U_{sC})/3$.

[0050] A 0-axis sampling voltage V_0 is equal to one third of a sum of an input voltage U_a of the A-phase alternating